Hurricane Katrina, the Crisis of Leadership, and Chaos Management: Time for Trying the 'Surprise Management Theory in Action'

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Abstract Four years have gone by since the historic Hurricane Katrina hit and drowned the city of New Orleans and caused a massive crisis of, and a global case of grand failure in, governance, leadership, and public management. Advancing on an earlier work published in *Public Administration Review* (Farazmand 2007), in which a global case of grand failure was established with several lessons drawn for future crisis management, this article argues further for developing and applying a theory of 'surprise management' to manage future crises and chaotic situations. Crises are borne out of natural and human made disasters, catastrophes, revolutions, and rapidly changing emergencies. Surprise management is the best approach to managing or coping with crises and crisis driven emergencies.

Keywords Hurricane Katrina · Crisis management · Emergency management · Theory of surprise management · Chaos and complexity · Managing unexpected

Introduction

Hurricane Katrina will be remembered in the history of natural disasters and catastrophes for a long time to come. It will also be studied, analyzed, and reexamined for its destructive consequences to human, ecological, and governance and administrative capacities. Hurricane Katrina did not just strike New Orleans, it destroyed it and also struck the entire United States, its governmental system at all levels, its political culture, and its capacity as a global superpower. Crises and emergencies test the competency of governments and challenge their legitimacy. The US governments at local, state, and federal levels failed miserably in the historic test

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of managing the emergency situation and the crisis that ensued after the landfall of hurricane Katrina in New Orleans.

This article advances the author's earlier work published in *Public Administration Review* (Farazmand 2007: 149–159) on Katrina crisis mismanagement as a 'global case of grand failure,' with several key lessons for future crisis management. More specifically, it focuses on advancing the "theory of surprise management in action" to counter and manage chaos oriented emergencies and crisis situations in natural and human made disasters, revolutions, and catastrophes. First, by way of background, a brief discussion outlines the grand failure in governance leadership and public management during the three stages of: mitigation and preparation, response systems, and crisis management and recovery process. Next, several lessons are outlined for future management of crises and emergencies. Finally, a suggested theory of 'surprise management system' is presented for future chaos oriented and crisis driven situations and emergencies in natural and human-made disasters, revolutions, and catastrophes.

Failures of policy and management

The failures in New Orleans's emergency and crisis management during the Hurricane Katrina disaster are many and have been analyzed, enumerated with future lesson drawing implications. Much of these failures have been covered by many authors and publications, including this author's previous works (see Farazmand 2001, 2004, 2007). Below are three major areas of failure that may shed light for policy and administrative purposes.

Planning and preparedness—a failure of politics and administration Politics, when work, can move administrative process with positive results. Very often, modern public administration is confused with political processes, especially partisan politics in design and implementation, and when politics interferes with good or sound administration, the results are almost a guaranteed disaster. Organizational and administrative designs, capacity building, and public management procedures are often developed and more or less in place, either through the bureaucratic structures of governance or anti-bureaucratic means in the process of crisis and emergency management, but it requires coherent and supportive politics and policy to make it work. Such coherence was absent in the case of Hurricane Katrina during the early phases of planning and preparedness as crucial steps against such potential disasters, and both were affected by politics and administration.

Both politics and administration failed, as an integrated system as well as a dichotomy of the two, in managing the emergency and crisis situation. Explaining the former, both science and political sentiment of time contributed to the initial planning and execution of the levee system that was designed to protect the city of New Orleans, a vibrant cultural city below the sea level. There was a 'compromise' in principles of planning, engineering, and design in the first place, and 'politics' was responsible for it. More specifically, the levee system was initially designed for category 5 hurricanes, costing obviously a few more dollars amounting to 2–3 billion dollars early on to build a powerful protective system against one of the most

devastating forces of nature, a strong hurricane—everyone knew it was needed but it was compromised.

However, unfortunately as often the case, politics prevailed over good administration in the planning stage—good planning, design, and management—and compromised all the basic principles of 'sound governance and administration' (for more on sound governance and administration, see Farazmand 2004) by going for a short-cut, that is spending less money and building a levee system that would not stand against even a category 3, as it turned out to be the case. Most politicians, especially elected ones, have short-term visions of self-interests in rushing to gain momentum for immediate gains and delivery of promises, often at the expense of long-term, strategic, and infrastructure development goals. This was exactly the case in New Orleans. Consequently, despite numerous warnings in advance by professional experts, the levee system was never upgraded for a major hurricane disaster (Wise 2006; Carter 2005).

The failure of both politics and administration was also evident in the preparation stage in the face of approaching Katrina. Despite many days of advance warning by the Miami based national Hurricane Center, preparation was poor at best at all levels of government. Politically, leaders failed to order advance evacuations for all and assist the most vulnerable and poor population who were unable to move; playing partisan politics and 'politics of neglect' by political leaders simply failed to deliver what they were elected and entrusted to do, saving lives and property—they did neither. The failure in administrative preparation was also evident when the nation's most important agency—FEMA—was expected to act with preparation—it did not. FEMA had lacked even in basic supplies of food, water, logistics, organizational coordination, and interagency and network capacity. To provide such supplies, it had relied on private contractors way too late. There was neither 'integration' nor a working dichotomy between politics and administration.

Response failure—who was really in charge? Preparation failure was followed by the response failure. With a lack of political will to make decisions in time, a lack of intergovernmental coordination, and 'politics of neglect' that resulted in the arrival of the hurricane that breached the levees, New Orleans became a disastrous national and international specter for all people to watch with disbelief on television screens all over the world. Was it really happening in America? How can a superpower not handle a localized disaster crisis on its own land? What would other nations expect of America in similar situations elsewhere on earth? What if multiple Katrinas strike both America and elsewhere at the same time? People asked these questions and this author took notes in numerous interviews and conversations he held with people representing over 20 countries. They all expressed disbelief, especially about a superpower that stages wars of invasion worldwide, but was unable to manage a disaster-driven crisis on its own land.

The response failure was many dimensional: political, leadership, managerial, organizational, intergovernmental and interagency coordination, decision-making, basic service delivery, and coordination of networked and volunteered organizations and groups, and more. The failure to respond—in evacuation, timely use of available resources, invoking timely constitutional and necessary authorities, and acting with professionalism and accountability—was among the highlights of the Katrina

disaster mismanagement. For example, hundreds of school buses were left unused—and went under water—while waiting for the FEMA promised buses, which did not arrive in time and when they did come from outsourced contractors across the country, they were either too late or too inefficient. Thousands of volunteer forces were kept away by FEMA Director Michael Brown who was mainly interested in 'image making and protecting the reputation of his boss, George W. Bush rather than saving lives.'

The response failure was devastating, ugly, and costly, and it led to a new stage of the disaster—a crisis of system breakdown as a result of the city drowning into water and ensuing chaos that followed. Confusion over who really was in charge blanketed the entire process of response system.

Failure of leadership and management in response and recovery—leadership crisis and chaos transformation With the breach of the levees, the city of New Orleans was immediately drowned under 10 feet water, which brought with it all kinds of environmental hazards and catastrophes, caused loss of numerous lives, and destroyed any capacity left to emergency management system. A new stage of 'chaos and crisis situations' emerged with no one able to cope with and no capacity to contain and manage it—again, a lack of preparation. This is was a new development, a situation no longer an emergency management process. Routine crisis and emergency situations can be managed with normal emergency management capacities, but once passed into chaotic and complex crisis stages, almost all those capacities become useless. Managing complex, chaotic, and high level crises requires different sets of knowledge, skills, and preparation that involve bold decision making, central and yet flexible organizational command structures, and a leadership capacity to stay on top of the crisis that is unfolding with dynamic changes. Chaos is expected as a normal condition in crisis and emergency situations, and it must be treated as another challenge and managed with knowledge, expertise, and capacities different from normal or routine emergency management processes.

These qualities were all lacking in Katrina crisis management. No one realized this devastating, complex, and yet natural phenomenon in New Orleans. Crises scramble plans of action and surprise everyone in and out of the field, as the dynamics of crisis constantly change and unfold on daily and hourly basis, with unpredictable outcomes. These are characteristics of crises, and the only way to manage high level crises is to build similar capacities to counter them. Evidence showed that emergency planners and managers, as well as political leaders, lacked in any training in 'chaos and crisis management,' for they did not expect or anticipate such crisis (Farazmand 2007). Even the top planners and political and administrative elites, warned in advance by engineers and other professional experts, were never trained and exposed through scenarios and simulations to chaos management exercises. But why not? How could they afford not to? These are big questions in all emergency management.

Anticipation is the key element of both emergency and crisis management, and this was an inexcusable part of the failure to prepare and respond. Failure to chaos training was itself a major a failure in 'emergency and crisis management' capacity building, and this was an inexcusable failure in the case of Katrina crisis management. Failure of performance through chaos management, in case there

were such capacity training in place but was not, was still a 'failure in leadership and management'. In either case, leadership and management failed to manage the new stage of emergency management in New Orleans—chaos and crisis management, which was transformed out of the failed emergency management process.

What can we learn from Katrina crisis?

A number of lessons can be learned from managing or mismanaging the Hurricane Katrina crisis. Many scholars have suggested important lessons that range from intergovernmental and inter-organizational to local-state, and coordination and other issues (see the articles in this symposium issue, as well as the articles in the Special Issue of *Public Administration Review*, December 2007). In one of the articles in that special issue, this author offered over eleven lessons, three of which emphasized the use of professionally trained people for emergency and crisis management, trained leadership capacity with chaos and crisis management knowledge and skills, and anticipation of impossibilities through 'surprise management' knowledge, skills, and attitudes. Each of these three suggestions requires separate extensive presentation. What is outlined below is a brief discussion of such three suggested solutions. Some scholars have suggested federalizing and centralizing the crisis and emergency management structure as one solution to consider, but such a solution might also conflict with constitutional issues of federalism and intergovernmental relations, thus complicating the problem even further in the American setting. Similarly, mere centralization without flexible decentralization of organization, coordination of network systems in crises can not work and may cause more crises of its own.

Professional training and development in crisis and emergency management

Managing crisis and emergency situations requires training in specialized knowledge, skills, and perspectives that are very different from other tasks and functions of public management. Specialized education and training in specific areas of planning and mitigation, coping, organization, coordination, collaboration, network supervision, response systems dynamics, recovery and revitalization, as well as the key elements of central command structure with local flexibilities are essential requirements to basic emergency management systems. Systems complexity develops as emergency operational processes run into conflicts with other phases or elements during a response or recovery process. This complexity can be further complicated when further unexpected natural or human made factors intervene and cause crises getting out of hand. Should emergency leadership also fail to act effectively and timely, the crisis can lead to chaos and further crisis of both emergency and crisis management; it can lead to a crisis of leadership and management.

　　Training and development in emergency and crisis management are generally in three types and levels: One is conceptual and knowledge based providing students and practitioners with the latest knowledge in the field, broadening the scope of knowledge on the field. Here the knowledgeable person is better equipped with what

is out there, how they can guide action, and the like. The second type is technical and operational training and development. Here participants learn specific technical skills, knowledge, and procedures as 'how to do' things from the moment a call comes in for action—e.g., fire, hazardous material spill, chemical and biological materials leakage, terrorism, etc. This type of emergency response system requires highly technical skills and even scientific knowledge and preparation, with advance educational degrees. The third type of training and development requires capacity building in 'integrated emergency and crisis management leadership' and complex management systems. It requires advance levels of education and training in organizational leadership, political skills, communication competency, and complexity management development.

Capacity building through chaos and crisis management Managing emergencies is a demanding and challenging task. However, quite often emergencies or disasters develop a tendency to turn into 'chaos and crisis,' making the task more challenging to the point of system breakdowns. Chaos and complexity theories, systems dynamics and nonlinear random events theories, as well as transformation theories through creative breakdowns are new developments in social sciences, including organization theory, that can inform us in our search for better solutions to challenges facing humanity and the governance systems worldwide.

In public administration, too, there is a growing body of literature on the twin fields of crisis and emergency management that spans across nations, cultures, and areas of security administration, terrorism, disasters, and catastrophes (see, for example, Comfort 1988; Farazmand 2001, 2007; Mitroff 2004; Perrow 1984; Pinsdorf 2004; Sagan 1993; Schneider 1995; 2006; Waugh 2000; Wise 2006). On emergency governance and crisis management, it is now generally understood that routine management functions of public organization should be separated across the board from those considered 'extraordinary' and emerging situations, such as political riots and upheavals, revolts and revolutions, foreign military threats, and even economic breakdowns with potential consequences threatening political system collapse. Common to both East and West, such destabilizing forces of crisis and chaos are becoming common threats to modern governance and administration (Dror 2001; Farazmand 2009).

Chaos and transformation theories, in a nutshell, raise two key issues with lessons to learn from: One is rejection of stability and equilibrium obtained trough linear thinking and as a sign of decay and out of touch with dynamics in a system, consumed with obsessive means for system maintenance at any cost and blinded by self-righteousness and closed to new ideas, hence a danger to itself as well as to others challenging its premises or basic assumptions. The second major feature of chaos theory is based on the three elements of 'nonlinear and dynamical thinking,' embracing 'disorder and disequilibrium,' and 'breakdowns at the threshold' of systems that appear stable on the surface but fragile and leading to dissipating structures and punctuated equilibriums (Kiel 1994; Prigogine 1984; Farazmand 2004, 2001). Chaos and chaotic breakdowns leading to potential transformations— both naturally and by deliberate design for desired purposes—have practical implications for emergency governance and crisis management theory and practice. Learning from such theories can help develop knowledge and skills to cope with,

manage, and redirect or recreate chaotic and crisis situations (Farazmand 2001, 2007).

'Breakdowns' may be "birth pangs of a better future," constituting what Schumpeter called 'creative breakdowns' (Schumpeter 1942), but they can also be devastating to millions, and we still have very little knowledge of the dynamics of transformation breakdowns. To this end, the emerging "chaos theory" can teach us many useful lessons (Dror 2001; Farazmand 2004; Kiel 1994; Prigogine 1984). We also know that catastrophic and chaotic breakdowns can become very disruptive, brutal, and much human suffering with aggressive behaviors. Emergency and crisis-driven breakdown situations demand 'extraordinary' governance and administration on a transient basis, demanding an 'emergency governance and management regime' to cope with and manage the situations (Schmitt 1963).

Declaring a state of emergency by sovereign authority is recognized in governance theory (Schmitt 1963) for coping with emergency situations (McCormick 2000). Yet care must be taken to not turn such authority into a dictatorial regime—including imperial presidencies or constitutional dictatorships—that could pose a threat to democracy and civil liberties. No one likes emergency regimes because they are potentially dangerous, especially when they may adopt many unnecessarily harsh policy measures (Leng 1990; Gomien 1993). However, also very harmful and devastating are situations where lawless prevail, governments breakdown, and societies face total collapse. Upgrading emergency governance and crisis management is necessary, especially when facing domestic instability and global threats of terrorism, invasion, conflict, war, poverty, and insecurity (Bartholomew 2006; Hauffmann 2006).

Similarly, once borne, crises tend to produce chaotic and dynamics with constantly changing features and unpredictable outcomes. Crises can scramble plans, disrupt routine governance and administrative actions, adversely affect human lives and cause possible suffering, and produce costs to society and its institutions. Crises demand urgent attention and force governing actors into creative thinking and extra-ordinary measures for action. While not all emergencies lead to crises, almost all crises demand 'emergency management' in personal and public lives (Farazmand 2001, 2007).

The key purpose of emergency government is to first arrest the evolving emergency situation into a chaotic one with unfolding dynamics. Steps following this stage may vary from response strategies to recovery and normalcy plans that would help reduce the extraordinary situation, making it possible to pass through the transient stage of emergency governance, and learn from the experience (Farazmand 2007). It is also important to note that very often—and it has been proven over and over in the history of civilizations and administrative systems—it is the mothership 'bureaucratic' institutions that still serve as a big reservoir of expertise, knowledge, experience, and know-how for action; it provides the fundamentals and the base for administrative action. However, it is the nonbureaucratic, robust managerial and professional expertise, and dynamic leadership and managerial command systems that must act outside the bureaucratic box to be effective in governing emergencies and managing crises; both are intricately connected and interdependent (Farazmand 2007, 2009, 2010/forthcoming).

Surprise management: the capacity to manage crises and emergencies

All chaos and crisis situations—such as spontaneous revolutions, Katrina type crises, and the like—carry a high degree of "surprises" that tend to surprise everyone, including those appearing to be in charge of events. In the case of Katrina crisis, all officials and organizational actors were totally caught up by "surprise," a dynamic that paralyzed the entire response system, and produced more chaos and surprises of its own, triggering more disasters after disasters. Surprise management is what we need to develop as a new capacity to managing emergency governance and crises under predatory corporate globalization, a process that tends to produce more crises worldwide as it is obsessed with short-term profits and control over the commanding heights of the world while ignoring long-term strategic issues of our planet and its powerless people (Regester and Larkin 2005: 70). Crisis and emergency management is not a new development as a field of study and practice; indeed, its conceptual idea and practice were well developed in the ancient World-State Persian Empire, and capacity building in emergency management was widespread across the vast realm of the Empire since the time of Darius the Great around 500 BC. Persians were masters of public management, including crisis and emergency management dealing with sudden crises, earthquakes, floods and landslide, and natural or health catastrophes. Characterized by a combination of organizational centralization and decentralization to allow local flexibility, the Persian bureaucracy was massive, efficient, and effective; it was second to none in the world (Cameron 1968; Cook 1983; Farazmand 2009; Frye 1975; Olmstead 1948).

The age of rapid globalization, information technologies, and nonlinear chaotic changes dictates the prescription of "surprise" as the "most commanding dimension of uncertainty" and hyper-complexity (Hermann 1969: 29). But we must first understand, and sharpen our knowledge of, 'surprises' through training and skill development in order to use it as a means to managing surprise and chaotic situations. Surprise may cause discomfort to a policy maker and his/her planner with sudden ignorance and serious consequences, but to an intelligent analyst everything is expected and "nothing will outdo the impact of the full-fledged surprise attack" (Rosenthal et al. 2001: 7). Unexpected things happen and do not give warnings; most damaging forces of nature—tornados, earthquakes, and sudden floods—strike unexpectedly with surprise (Weick and Sutcliffe 2007).

Complexities are borne out of crises and emergencies, and complex systems require complex management systems that are adaptive, anticipatory, and responsive to harshest possible conditions. They carry an unfolding dynamics of chaos with unpredictable outcomes and result in disorder, but an anticipatory capacity can mitigate many such manifest behaviors, arrest chaos in its early stages while managing crisis elements as they present themselves.

Examples of this sort of crisis management abound. One was the case of the gigantic earthquake in December 2004 that totally destroyed Iran's southeast ancient city of Bam (including its 2,500 years old standing citadel) before dawn. It collapsed the entire system of governance and administration within hundreds of miles in parameters and killed over 43,000 of the city's 110,000 population and leaving 30,000 wounded. Chaos and crisis became the order of the first day. However, by 3pm the same day, a centralized national command structure was already set up and

in operation in Tehran giving information and coordinating multiple vertical and horizontal network structures of organizational and voluntary response systems. In less than 24 h, chaos was arrested and response system was so effective that international response teams, including a US FEMA team, found themselves little to do to help upon arrival. Key to such effective emergency and crisis management was a surprise management capacity coupled with a "five-step forward-reading strategy" that had anticipated all possibilities and impossibilities beyond five levels, including sudden desert sand storms, more earthquakes, terrorism, potential foreign invasion by the United States, and more (Farazmand 2007; personal interviews with officials involved in that experience).

Principles of surprise management theory The concept of surprise management draws on chaos and complexity theories which also draw on dynamic systems theories (Kiel 1994; Prigogine 1984; Pascale 1990; Stacey 1992; Waldrop 1992; Weick and Sutcliffe 2007). However, unlike systems theory which demands equilibrium, stability, and feedback processes, both chaos and complexity theories thrive on turbulence, instability, chaos, disequilibrium, radical change, and feedforward processes with dynamic events of unfolding nature. Chaos and complexity, therefore, characterize the nonlinear, dynamical, unpredictable systems of emergence with energies to produce the unexpected surprises. Thus, 'surprise theory' is totally different from stable theories of organization, management, and government.

As a social, military, and political construction, the "theory of surprise management" aims to read and act in an anticipated fashion, remove or minimize potential threats, and clear obstacles to achieving goals or missions. It is based on several principles. First, it rejects anything that is routine and expected. Second, it is fluid and constantly changing with flexibility and adaptability. Third, it demands certain preconditions to qualify as surprise and chaotic, nonlinear and unexplainable, as distinct from linear and predicable causal behaviors. Forth, it demands cutting edge knowledge, skills, and attitudes beyond the comprehension of most people in routine governance and administration. Surprise managers and experts trained in that highly dynamic and hyper surgical profession can't function well in routine emergency management; their muscles and brains will simply diminish in energy and performance. Finally, it requires extraordinary and yet disciplined authority and power with unrestrained resources. Surprise management thrives and feeds on chaos and crisis situations; therefore, the more such conditions the better capacity building in surprise management.

Conditions for surprise management development Short term thinking bores surprise managers and their teams, and strategic thinking is what makes up an essence of the concept. Yet, surprise management takes on small and short term crisis conditions as bites for sharpening surgical skills. It is expensive to develop and maintain surprise management capacities, but it is a national asset with no substitute, a necessity with no alternative. Any form and degree of democracy (and there are more forms to democracy than just one based on election) needs surprise management systems more than any other systems, but the idea must be nurtured and institutionalized with its own values.

Strategic conditions refer to four key points of attention: foci, loci, positions, and whos. *Foci* refer to the areas of focus or stress in crisis situations (political, social, disaster, international relations, etc.); this is important as surprise managers operate with a laser beam focus for results, though they do not lose sight on any other foci of potential development. *Loci* refer to locations, organizational level, and governance areas (local, state, federal, global) on which the focus is placed or the crisis is happening; it is the laser beam location for removal or solving of problems, a solution that is 'target' based. Targets can be single or multiple, and they all are considered in surprise management processes. *Position* means strategic positioning and repositioning of key players, actors, and participants in the crisis or surprise management process; it is a nonstop, ongoing, constantly adapting strategic dynamic of surprise management function. Finally, the *who (s)* refer to individual and institutional actors in strategic positions making crucial decisions and acting accordingly.

No system can effectively perform without competent actors, and actors (officials, administrators, politicians, professional experts, fire fighters, rescue operators, special police forces, and strategic command persons) who make the surprise management theory work in practice. Failure to maneuver timely, shirking responsibility even 1 min, sleeping at the switch even 1 sec, and expecting things to take care of themselves most likely lead to further disasters and crises beyond anyone's assessment; hence the imperative of special training in surprise management capacity building.

Requirements for surprise management There are several key requirements for surprise management to work effectively. First, ample resources are needed to operate with, and this means cutting edge tools, techniques, equipments, and technologies, including knowledge and skills—such a capacity does not come cheap. Second, critical or crisis conditions, not routine ones, are expected as 'opportunities for training and preparing 'surprise management' capacities; surprise management demands full attention, talent, language and communication as well as personality skills, mostly uncommon ones, to engage extremely unthinkable conditions and circumstances, people, and dynamics. Third, 'surprise management' requires extensive, specialized and rigorous training in various techniques with harshest conditions, strategies, tactics, and scenarios; decision-making under stress and system breakdown conditions; practices that signal the need for dealing with 'impossibilities'; and surprises that would only surprise the non-experts. Forth, surprise management requires autonomy and authority in performance with regard to loci, foci, and dynamic strategic positioning during action.

However, exercising such autonomy in action is and should be also accountable to democracy and its principles, though temporary or constructive lapse in operation of such principles should not surprise anyone, and democratic values of transparency and integrity as well as accountability must be observed through surprise management theory in action. Modern governance and public administration are complexity driven and complex systems require complex solutions, especially surprise management.

Capacity building in surprise management How do we build capacity for surprise management? The answer lies in education, not just at adult age, but also starting at

early age, even childhood. Societies like Japan, Iran, Mexico and elsewhere prone to constant earthquakes are expected to face sudden emergencies and crisis situations. Government and corporate institutions, families, communities, and emergency service response systems have both professional and institutional as well as moral responsibilities to educate the general public, especially children who will turn future leaders and public managers tomorrow. Preparing for surprise management is a much more specialized, skilled centered, and professionalized function and must be given a top priority at national, regional, and local levels of governance and administration. There is no excuse for lack of such capacity development. Loss of lives, properties, and endless chaos will only lead to destruction and catastrophes. Capacity building through surprise management is an imperative for not only countries prone to natural disasters, but also for all nations and conditions that may turn into crises—political, revolutionary, violent conflicts, riots, counter-revolutionary situations, military invasions, and health or other crises.

Such a capacity building in surprise management, though new as a concept, was a common practice in the vast realm of the World State Achaemenid Persian Empire founded by Cyrus the Great in 559 BC for over 220 years. Some of the key features of Persian surprise management system included a massive capacity building across the Empire, a powerful/formidable army, a highly able and professionalized bureaucracy, numerous project based and team-based emergency management service delivery systems, a sound administrative and governing system based on the principles of centralization and decentralization as well as 'tolerant governance', and multiple systems of checks and balances (Cameron 1968; Cook 1983; Farazmand 2009; Frye 1975; Olmstead 1948).

Carl Weick (1995) reminds us that most managers often make a big mistake of thinking linearly by trying to solve organizational problems on linear fashion; they must get out of the causality box that has frozen their mindsets. They must think strategically and nonlinear to anticipate and manage the "unexpected" (Weick and Sutcliffe 2007). Educational and training programs, formal and informal, periodic and continuous, are required to train and develop surprise management teams, leaders, and managers for crisis management in the age of rapid and nonlinear changes that constantly produce complexities. Managing complexity on the "edge of chaos" (Pascale 1990), too, requires a different set of organizational learning, a learning to learn and surprise management capacity (Waldrop 1992).

Recent studies suggest imperatives of "adaptive management" in coping with crises and disasters (Wise 2006), but others argue for "collaboration over adaptability", while still others argue for a network-based organizational system to crisis management. The theory of 'surprise management' integrates all features of the authoritative, collaborative, participative, as well as the adaptive models, and with a quality of self-organizing fluidity and hyper-flexibility, it possesses an unmatched capacity for crisis and emergency management. Capacity building for surprise management demands that: (a) a high level public policy decision to authorize development and institutionalization of such asset building capacity at all levels—from local to national and global; (2) universities and institutions of higher education across the globe develop and offer academic degrees and professional courses in chaos and surprise management theories and applications as part of capacity building for future emergency governance and crisis management in an age

of increasing global insecurity, risks, disasters, and inconceivable surprises; and (3) this capacity building be taken seriously with constant upgrading with cutting edge approaches, techniques, knowledge, and training.

Developing countries can build this capacity through education and development projects and through application of self-organized and self-managed community-based teams in villages and towns, but they must also be empowered, enhanced, and promoted by government organizations at all levels. Surprise management capacities must also be built and enhanced by all government institutions as a key part of their ongoing organizational requirements—there is no substitute for being prepared in anticipation. Anticipation is a cardinal principle to coping with unexpected surprises (Weick and Sutcliffe 2007). Surprise management theory works even better when resources are abundant, but even scarcity should not deter such capacity development—it is first and foremost a mental and internalized condition that needs to be developed and enhanced by professional training, resources, and applications. Similarly, surprise management capacity building in developed or advanced countries should be taken more seriously, as the mind-trap of 'we are advanced and know what to do' very often takes officials, managers, and citizens by 'surprise' for which they are not prepared. It is the combination of complicity, ignorance, arrogance, leisurely habit, and dismissive attitude that makes government officials and administrators, including emergency managers, in rich developed nations incapacitated and paralyzed in action when faced with crises, chaos, and catastrophes. Capacity building in 'surprise management theory in practice' will help overcome such paralysis and empower government and citizens in face of crises and emergencies (Farazmand 2007, 2010/forthcoming).

Such a 'surprise management capacity' is adaptive, anticipatory, and prepares experts and non-experts to respond and manage future crisis management. It is a system capacity that tries to read accurately the incoming crises or anticipates various unexpected possibilities, and takes bold actions to guide the process of: informing and engaging citizens, preparing for the worst, evacuating target population, and responding with necessary resources to achieve a level of recovery for renewal, in cases of, for example, earthquakes, flood and landslide developments, political or military crises. Three examples present possible global best practices to consider: the July 28, 1976 earthquake in Qinglong County in northeast China—predicted 4 days in advance—and the June 7, 2007 category 3 Hurricane Guno that hit the southeastern coastal cities and towns of Iran in the Persian Gulf litoral; in both cases advance communication, citizen engagement, and organized evacuation of millions of citizens led to the saving of massive lives; not a single life was lost in Iran's case, while casualties was minimized in China's case (Farazmand 2007). Other such best practices can be found all over the world. The third case involved the powerful hurricanes Ike and Gustav that hit the southern towns and cities of Texas, especially Galveston and Huston in 2008. Learning from Katrina, the local and state authorities did an excellent job in evacuating populations, and managing the emergency situations in both Huston and Galveston areas—where devastation was maximum, but human casualties were minimized.

Surprise management was also a key strategic capacity applied in arresting and managing the fast developing chaos and crisis that ensued right after the massive earthquake in the ancient city of Bam in southeast Iran mentioned earlier. China

responded similarly in the last year's devastating earthquake in its south west province. It can be done everywhere. Capacity building in surprise management is not a luxury anymore; it is a national necessity, a prescription for survival, and a 'national asset development', an asset that can—once developed and mastered—be exported to help other nations in need of assistance. What was badly needed but, unfortunately, missing in New Orleans in the face of hurricane Katrina was the "theory of surprise management in action," a capacity that could have prevented or minimized the loss of lives, helped avoid the 'grand failure,' and helped manage the crisis driven disaster and the emergency operations much more effectively (Farazmand 2007).

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